WHAT IS CLAIMED IS:

1. A sleep monitoring apparatus adapted to be mounted on a human head of a patient having a front face and first and second sides with the front face having a mouth, a nose with nostrils therein and first and second eyes and first and second ears on the first and second sides comprising a removable headpiece adapted to be mounted on the head and engaging the head above the eyes, an acoustical device adapted to be positioned on the face in the vicinity of the nose and/or mouth of the patient and having at least one acoustic duct receiving respiratory airflow from the patient, a sensor exposed to the acoustic duct for sensing turbulence and/or pressure changes in the respiratory airflow in the acoustic duct and providing an electrical output, electrical circuitry carried by the headpiece for receiving the electrical output and for processing the electrical output to provide a real-time signal from the headpiece which is indicative of the breathing of the patient.

2. Apparatus as in Claim 1 wherein said headpiece is a headband having stretchable elastic characteristics.

3. Apparatus as in Claim 1 wherein a plurality of event values are provided based upon a minimum duration and wherein a respiratory disturbance index plus is ascertained which is based upon the sum of event values divided by the duration of sleep of the patient.

4. Apparatus as in Claim 1 wherein said sensor exposed to the acoustical ~~duct~~ space is a Helmholtz resonator.

5. Apparatus as in Claim 4 wherein said Helmholtz resonator has a frequency which is substantially above the frequency range of hearing of the human ear.

6. Apparatus as in Claim 5 wherein said resonant frequency has a frequency 27 kilocycles.

7. Apparatus as in Claim 4 wherein said Helmholtz resonator is formed of a metal to suppress low frequencies.

8. Apparatus as in Claim 4 wherein said sensor includes a microphone mounted in the Helmholtz resonator.

9. Apparatus as in Claim 1 further including additional sensors connected to the electrical circuitry.

10. Apparatus as in Claim 9 wherein said additional sensors include sensors adapted to be mounted on the head of the patient for picking up EEG signals from the brain of the patient.

11. Apparatus as in Claim 9 wherein said additional sensors include sensors adapted to be mounted on the forehead of the patient in the vicinity of the eyes of the patient for ascertaining EOG signals.

12. Apparatus as in Claim 9 wherein said additional sensors include a pulse oximeter adapted to be carried by the head of the patient.

13. Apparatus as in Claim 9 wherein said additional sensors include a sensor for sensing body position of the patient.

14. Apparatus as in Claim 9 wherein said additional sensors include a sensor for sensing vibrations of the trachea of the patient.

15. Apparatus as in Claim 9 wherein said additional sensors include a sensor for sensing the heart rate of the patient.

16. Apparatus as in Claim 3 wherein said event value has a duration of at least 10 seconds.

17. A method for diagnosing sleep disorders of a human being having a head having a nose and nostrils therein and a mouth and first and second eyes and first and second ears comprising sensing turbulence and/or pressure changes in the respiratory airflow from the nose and/or mouth of the patient, generating a resonant frequency in response to sensing turbulence and/or pressure changes in the respiratory airflow and providing an electrical output and utilizing the electrical output to provide a real time signal which is indicative of breathing of the patient.

18. A method as in Claim 17 further including the steps of ascertaining a plurality of events with respect to the patient and having event values which are based upon a minimum duration of time and further including the step of summing the event values and dividing the sum of the event values by the duration of sleep to provide an enhanced respiratory disturbance index RDIplus.

19. A method as in Claim 18 together with the step of sensing EEG signals from the brain of the patient and utilizing them in the real time signal.

20. A method as in Claim 18 together with the step of sensing eye movement of the patient and providing an electrical signal which is used to provide an event value in the real time signal.

21. A method as in Claim 17 together with the step of measuring movement of the trachea and providing an electrical output a real time signal.

22. A method as in Claim 17 together with the step of measuring the heart rate of the patient and providing an electrical signal which is utilized in the real time signal.